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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/780,265	02/09/2001	Thomas Fuhrmann	500585.20005	6272

7590

04/02/2004

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EXAMINER

KIANNI, KAVEH C

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 04/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/780,265

Applicant(s)

FUHRMANN, THOMAS

Examiner

Kevin C Kianni

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-21 is/are pending in the application.
- 4a) Of the above claim(s) 17-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 17-21 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. With regard to applicant's objection that the restriction, by original presentation, done in paper No. 13, was not proper the examiner agrees with the applicant and therefore a new restriction by the original presentation is properly presented by the examiner as follows:

Newly submitted claims 17-21 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: (I) Claims 10-16, drawn to the exit slit is formed by entering area of a first end of the light waveguide and the detector is disposed at a second end of said light waveguide, classified in class 385, subclass 3; (II) whereas the newly submitted claims 17-21 drawn to the exit slit that includes selected wavelength area and a slope area in which light diffracted away/blocked from the core of the waveguide classified in class 385, subclass 39. The inventions are distinct, each from the other because of the following reasons: Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention II has separate utility such as a Diffracting/blocking filter for selectively dropping/adding particular wavelengths in a WDM while invention I is utilized in regular optical input/output coupling. See MPEP § 806.05(d).

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for

Art Unit: 2877

prosecution on the merits. Accordingly, claims 17-21 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections

- 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

And - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 10 and 15 are rejected under 35 U.S.C. 102(e) as being unpatentable by Gutin et al. (Gutin) (US 6,421,179 B1).

Regarding claim 10, Gutin teaches an optical spectrometer (shown at least in fig. 1; see col.. 4, lines 26-47) comprising:

An optical reflection grating 108 for diffracting the wavelengths 106 of an incoming light 102,

an exit slit (see exit slits of array waveguide 140) for spatial wavelength selection of the diffracted wavelengths 110-116 (shown in fig. 1, items specially separated wavelengths 110-116 are selected by at least waveguide array 140; also see col. 5, lines 25-34), and

a detector 142 for the light 110-116 penetrating through the exit slit (see exit slits of array waveguide 140 to be detected by the detector 142),

wherein the exit slit is formed by an entering area of a first end of the light waveguide (shown in fig. 1, item light/wavelengths 110-116 entering the waveguide first end 140), and the detector 142 is disposed at a second end of said light waveguide 140 (shown in fig. 1, item light/wavelengths 110-116 exiting at the second end of the waveguide array 140 being detected by the detector 142).

Regarding claim 15, Gutin further teaches wherein the entering area is at least as long as the core diameter of the light waveguide (shown in fig. 1, item the area of light entrance to each of the waveguides 140 is at least as long as the core diameter of the light waveguide).

- The statements advanced in claim 1, above, as to the applicability and disclosure of Gutin et al. are incorporated herein.
4. Claims 11-13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable

over unpatentable over combination of Gutin et al. and Korn et al. (Korn) (US 6,137,938).

Regarding claims 11-13 and 16, Gutin, as stated above, teaches all limitations of claim 10. Gutin further teaches wherein the end of the light waveguide is symmetric with respect to an axial plane of the light waveguide (shown in fig 1, item each waveguide of the array 140 has a symmetric end with respect to axial plane of the light waveguide array 140).

However, Gutin does not teach wherein the end of the light waveguide is only sloped on both lateral sides of the entering area designed rectangularly; wherein the end of the light waveguide is sloped such that light entering into the sloped surfaces is not further guided in the core of the light waveguide; wherein the end of the light waveguide is only sloped on both lateral sides of the entering area designed rectangularly, and the entering area is at least as long as the core diameter of the light waveguide. These limitations are taught by Korn.

Korn teaches an optical waveguide wherein the end of the light waveguide is only sloped on both lateral sides of the entering area designed rectangularly (shown in at least fig. 1, item 110); wherein the end of the light waveguide is sloped such that light entering into the sloped surfaces is not further guided in the core of the light waveguide (see col. 2, lines 4-8); wherein the end of the light waveguide is only sloped on both lateral sides of the entering area designed rectangularly (shown in at least fig. 1, item 110); such that light entering into the sloped surfaces S1-2 is not further guided in the core of the light waveguide (see col. 2, lines 4-8). Thus, Koran provides coupling

Art Unit: 2877

efficiency associated with the fiber tips while maintaining the ease of manufacture associated with the sloped fiber ends (see col. 1, lines 59-63). Thus, it would have been obvious to a person of ordinary skill in the art when the invention was made to modify Gutin's spectrometer by replacing its waveguide(s) 140 with that of Koran's double sided sloped waveguide 100/110 in order to produce a spectrometer that includes the above limitations, since the resultant optical system would enable injection and detection of light into waveguides at desired spectrum of wavelengths/ power and further minimizing insertion loss and channel cross talk (see col. 4 lines 36-47).

- The statements advanced in claim 1, above, as to the applicability and disclosure of Gutin et al. are incorporated herein.

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Gutin et al. and Noell et al. (US 5966482).

Regarding claim 14, Gutin, as stated above, teaches all limitations of claim 10. However, Gutin does not teach wherein the entering area is narrower than the core diameter of the light waveguide, and around the entering area a vapor deposited opaque metal layer is provided. This conventional limitation is taught by Noell (shown at least in fig. 2; see also col. 1, lines 14-19, and col. 6, lines 20-29). Thus, Noell provides an optical fiber with low insertion loss (col. 2, lines 37-38). Thus, it would have been obvious to a person of ordinary skill in the art when the invention was made to modify Gutin's spectrometer by replacing its waveguide(s) 140 with that of Noell's metal deposited waveguide 2 in order to produce a spectrometer that includes the above

Art Unit: 2877

limitations, since the resultant optical system would enable injection and detection of light into waveguides at desired spectrum of wavelengths/ power and further minimizing insertion loss and channel cross talk (see col. 4 lines 36-47).

Response to Amendment/arguments

6. Applicant's arguments filed on June 12, 2003 have been fully considered and thus the examiner has used a new prior art in order to overcome applicant's amendments/objections over prior art teachings, and thus applicant's arguments about the prior art rejections are moot. Regarding applicant's request for reconsideration of the nonelected claims 17-21 see examiners comments at the first paragraph of page 2, above.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Cyrus Kianni whose telephone number is (571) 272-2417.

The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 6:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached at (571) 272-2415.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for formal communications intended for entry)

or:

Art Unit: 2877

Hand delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, consisting of a stylized 'K' followed by a long, wavy horizontal line.

K. Cyrus Kianni
Patent Examiner
Group Art Unit 2877

March 18, 2004